

PC3XS TO PDM70

TECHNICAL INFORMATION

FOR INTERNAL USE ONLY

EP-PC3XS-TI-L

1 OF 1 DEC 1987

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digital

MADE IN USA

24-Aug-1987
PC3XS-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number -----	REV ---	Rel. Date -----	SB# ---	Title -----
-PC3XS--TT-01	A	15-Jul-83		PC3XS-AA CP/M opt for PC350
-PC3XS--TT-02	A	18-Jun-84	336	PC3XS-AA 48 TPI support

PC3XS-TT-1

digital	FIELD SERVICE TECH TIP					Option Designator PC3XS	
	☐ 12 BH	☒ 16 BH	☐ 18 BH	☐ 32 BH	☐ 36 BH	Category TERMINALS	
PC3XS-AA CP/M OPTION FOR THE PC350						Tech Tip No. PC3XS- TT - 1	
Processor Applicability P 1 C 1 3 1 5 1 0 1 1 1			Cross Reference			Tech Tip Rev A	Page 1 of 2
Author DAY MENDELSON				Mgr./Supv. Approval <i>[Signature]</i>			
Location MAYNARD			Mail Stop ML05-2/T94			Date	
CSSE Approval <i>[Signature]</i>						Date 15-JUL-83	
PSG Approval <i>[Signature]</i>						Date	

DESCRIPTION

THE PC3XS-AA IS THE CP/M SOFTCARD OPTION FOR THE PROFESSIONAL 350. IT ALLOWS USERS TO RUN 8 BIT CP/M APPLICATIONS ON 5 1/4" RX50K MEDIA.

THE OPTION CONSISTS OF A 5 1/4" x 8" OPTION BOARD AND SOFTWARE. THE OPTION BOARD CONTAINS A Z80A PROCESSOR, 64K BYTE OF RAM, AND SUPPORT LOGIC. THE SOFTWARE CONSISTS OF A CP/M APPLICATION DISK USED TO START CP/M AND A CP/M SYSTEM DISK.

PC350 H/W AND SOFTWARE REQUIREMENTS TO USE THE CP/M OPTION

1. PC350 WITH A WINCHESTER DISK DRIVE.
2. PD/S VERSION 1.5 OR LATER.

CP/M RESTRICTIONS

1. ONLY "8 BIT" APPLICATIONS.
2. CP/M APPLICATIONS CANNOT USE COMM PORT OR ANY OTHER SPECIAL FEATURES AND OPTIONS IN THE PC350.
3. USE ONLY CP/M APPLICATIONS IN RX50K FORMAT.

INSTALLATION

THE OPTION BOARD SLIDES INTO ANY OPEN SLOT THE SAME WAY ANY OTHER OPTION BOARD IS INSTALLED. THERE ARE NO SWITCHES TO SET OR CABLES TO CONNECT.

DIAGNOSTICS

THE MODULE RUNS SELF TEST DURING POWER UP. IF A FAILURE IS DETECTED DURING POWER-UP, THE SLOT CONTAINING THE OPTION WILL BE HIGHLIGHTED AND THE TWELVE DIGIT DISPLAY WILL HAVE THE FOLLOWING ERROR CODES.

AA BBBB
00 0043

WHERE AA = SLOT NUMBER
BB = ANY ERROR CODE

00 00 43 = ID NUMBER FOR THE CP/M BOARD WHICH IS ON THE RED HANDLE.

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84-0186-12 REV A/700

PC 345-TT-2

digital	FIELD SERVICE TECH TIP		Option Designator PC3XS	
	Continuation Sheet		Category TERMINALS	
Title PC3XS-AA CP/M OPTION FOR THE PC350			Tech Tip No. PC3XS- TT - 1	
Processor Applicability P C 3 5 0		Cross Reference	Tech Tip Rev A	Page 2 of 2

DIAGNOSTICS Cont'd.

REPLACE THE BOARD WHEN SELF TEST FAILS.

RSL

54-15641

CP/M OPTION BOARD

FIELD MAINTENANCE PRINT SET NUMBER IS MP01730.

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Doc 01000-12-01V4/700

PC3XS-TT3

digital	FIELD SERVICE TECH TIP					Option Designator PC3XS	
	☐ 12 BH	☒ 16 BH	☐ 18 BH	☐ 32 BH	☐ 36 BH	Category TERMINALS	
Title PC3XS-AA 48 TPI SUPPORT					Tech Tip No. PC3XS-TT-02		
Processor Applicability P: C 3 2 5 / 1 5 0			Cross Reference N/A		Tech Tip Rev A	Page 1 of 2	
Author KAY SIEFEN				Mgr./Supv. Approval <i>[Signature]</i>			
Location MAYNARD			Mail Stop "L05-2/T94"		Date June 6, 84		
CSSE Approval <i>[Signature]</i>					Date 18-Jun-84		
FSPSG APPROVAL					Date		

PROBLEM DESCRIPTION:

The CP/M option presently supports only those CP/M application diskettes in RX50K format (96 TPI). This is due to a restriction in P/OS and the RX50 controller.

SOLUTION:

With the release of P/OS V1.7 and an upgrade to the RX50 controller, CP/M will now support VT18K diskettes (48 TPI). The hardware upgrade consists of an EPROM which is installed on the RX50 controller in location E2 (See diagram).

Field Service should be aware of this when servicing a customer who has the CP/M option installed. If the RX50 controller has to be replaced for any reason, be sure to remove the EPROM, if present, from the defective RX50 controller and install it on the replacement module.

When the EPROM has been successfully installed, selecting CP/M from the P/OS Main Menu will no longer display the message: "This system supports Digital RX50K diskettes only". There should be no message.

This new EPROM will be available to customers after Nov 1, 1983. In 1984, the upgrade will be incorporated in the new version of the RX50 controller (REV10 54-15058) and may be sourced directly then from SR17. It should be noted that this EPROM upgrade is NOT mandatory at this time. It is available only to those CP/M V1.0 customers who require 48 TPI support. Those customers request the upgrade by mailing a postcard found in their software kit to DIGITAL. The EPROM is sent to the customer. Upon receipt of the chip, the customer is instructed to call the CSC. The Support Center will direct the customer to a carry-in-center for installation or dispatch Field Service for on-site installation.

If the EPROM is defective, upon installation or post installation Field Service should request a replacement by calling the Support Center. The Support Center will notify the product manager who will send another EPROM to the customer. All installations will be charged against Warranty, which is in keeping with the new one year on-site warranty (Investment Protection Plan).

SR17 will become the source for spares in Q1 FY85.

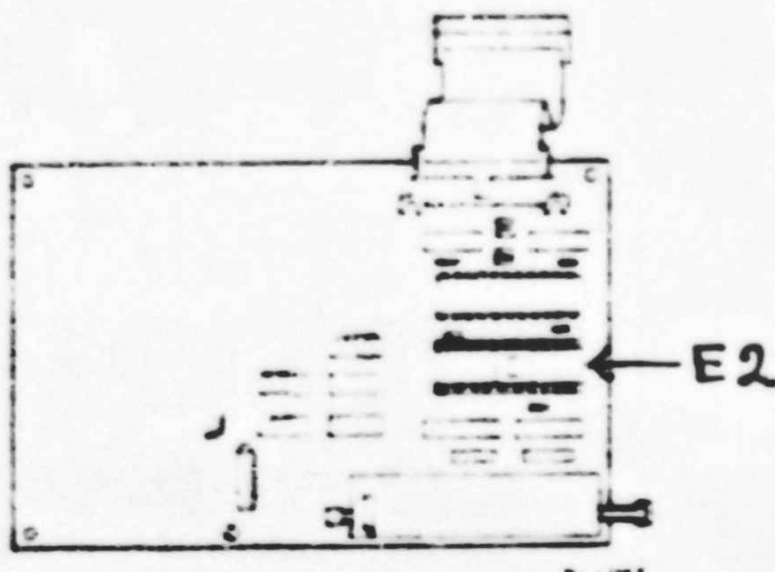
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PC3XS-TT-4

5/3
FCO
WRI
DEC

digital	FIELD SERVICE TECH TIP	Option Designator PC3XS	
	Continuation Sheet	Category TERMINALS	
Title PC3XS-AA 48 TPI SUPPORT		Tech Tip No. PC3XS-TT-02	
Processor Applicability P 0 3 2 5 / 5 0	Cross Reference N/A	Tech Tip Rev A	Page 2 of 2



KX50 Controller Module

E2
 Old part number - 23-010M1-00
 New part number - 23-018M1-00

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PC3XS-TT5

[illegible][illegible]

LIBRARY TYPE

PDP 8, PDP 11, DEC 10/20, VAX, TERMINAL**PC3XX-AA-S0001 CODE: F**

FEB 85 - PROBLEM: When the revision "A1" or "B1" 54-15539-01 is used on the PRO380, the power-up diagnostics will fail with the error message "060001/000046".

IN-PLANT EFFECTIVITY: DEC 84

FIELD EFFECTIVITY: Revision "A1" and Revision "B1" Real Time Interface (PC3XX-AA) will not work on the PRO380. Minimum workable revision level is "B2". If a lower revision module is used, the power-up diagnostics will display a picture of the PRO and the following error message: "060001/000046".

QUICK CHECK: Revision "B2" has a chip in location E52.

The DEC on-site labor charge will be the time required to install and test the FCO at the then current hourly rate.

FCO KIT ORDERING:

EQ-01328-01: FCO, PARTS

FA-04608-01: FCO only

[illegible]

FCO's

17-Dec-1986
PC3XX-INDEX.A
REV A

MICROMEDIA PUBLISHING

Field Change Order Index

FCO Number	FA REV	Rel. Date	SB#	Problem
-PC3XX--AA-S001	A	22-Feb-85	369	When rev A1 or B1 is used on the PRO380, power-up diag will fail

PC3XX-FCO-1

digital

FIELD CHANGE ORDER

FA-04608-01

FCO

PC3XX-AA

S

0001

PAGE
1 of 4

Level of Urgency (LOU)

STATUS
LOU

FCO EXPENSE RESPONSIBILITY

WARRANTY

CONTRACT

PER CALL

Mandatory

Required

Specification

Improvement

Hardware
Option

Cosmetic

DIGITAL

CUST

CUST

CUST

PURCHASEABLE OPTION

CUST

CUST

CUST

On-site FCO installation, by DEC will be in accordance with both APPLICABILITY and the above FCO EXPENSE RESPONSIBILITY matrix

ESTIMATED TIME TO INSTALL and TEST

(on-site)

(Travel time not included)

.5

DECIMAL HOURS

APPLICABILITY

Revision "A1" and Revision "B1" Real Time Interface (PC3XX-AA) will not work on the PRO380. Minimum workable revision level is "B2". If a lower revision module is used, the power-up diagnostics will display a picture of the PRO and the following error message: "060001/000046". (See Figure 1)

SPECIAL TEST EQUIPMENT, TOOLS, or SUPPLIES
(Not included in the Field Retrofit Kit)

None.

FIELD INSTALLATION and TEST PROCEDURE

Remove the out of revision PC3XX-AA (54-15539-01). Replace with the 54-15539-01 Revision "B2" or greater. Run power-up and Maintenance Service Diagnostics. See page 4 of 4 or PC350/380 Pocket Service Guide for detailed procedure.

QUICK CHECK (To determine if FCO has been installed)

Revision "B2" has a chip in location E52.
(See Figure 2).

LAST PREVIOUS FCO: None

RELATED OR PREREQUISITE FCOs: MCOs
None

PARTS AVAILABILITY DATE March 1984

LOGISTICS CODING 300 - 10 - 300

LOGISTICS REVIEW

QTY PART NUMBER DESCRIPTION

1 54-15539-01 PC3XX-AA I/O Option

Order by

This Number

Kit Contains

FCO Prints Parts

EQ-01328-01

X

X

FA-04608-01

X

Problem/Symptom: When Revision "A1" or "B1" 54-15539-01 is used on the PRO380, the power-up diagnostics will fail with the error "060001/000046" (See Figure 1).

APPROVED - Field Service Product Support

Mark Hopewell
Mark Hopewell*John Freudenberg*
John Freudenberg

Libraries:

8

11

LCG

Mini

FCO RELEASE DATE

22 February 1985

5/31/85

FCO PC3XX-AA IS INCORRECTLY NAMED. IT SHOULD READ PC3XX, PER DEC-O-LOG AND ECO WRITER, BARBARA ERISS. THE ORIGINATOR REFUSED TO CHANGE IT. THE ACCOMPANYING DEC-O-LOG HAS THE CORRECT NUMBER.

PC 344 - FCO - 2

d	i	g	i	t	a	l

FCO PC3XX-AA-S0001

PAGE 2 OF 4

Your Professional has hardware problems. Please record the numbers on the right hand side of the screen, then press RESUME.

Device ID = 000046

Error code = 000001

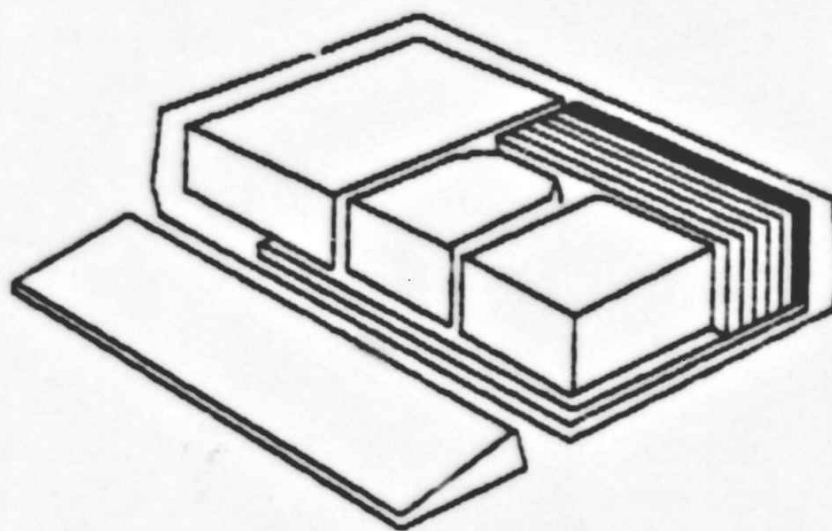


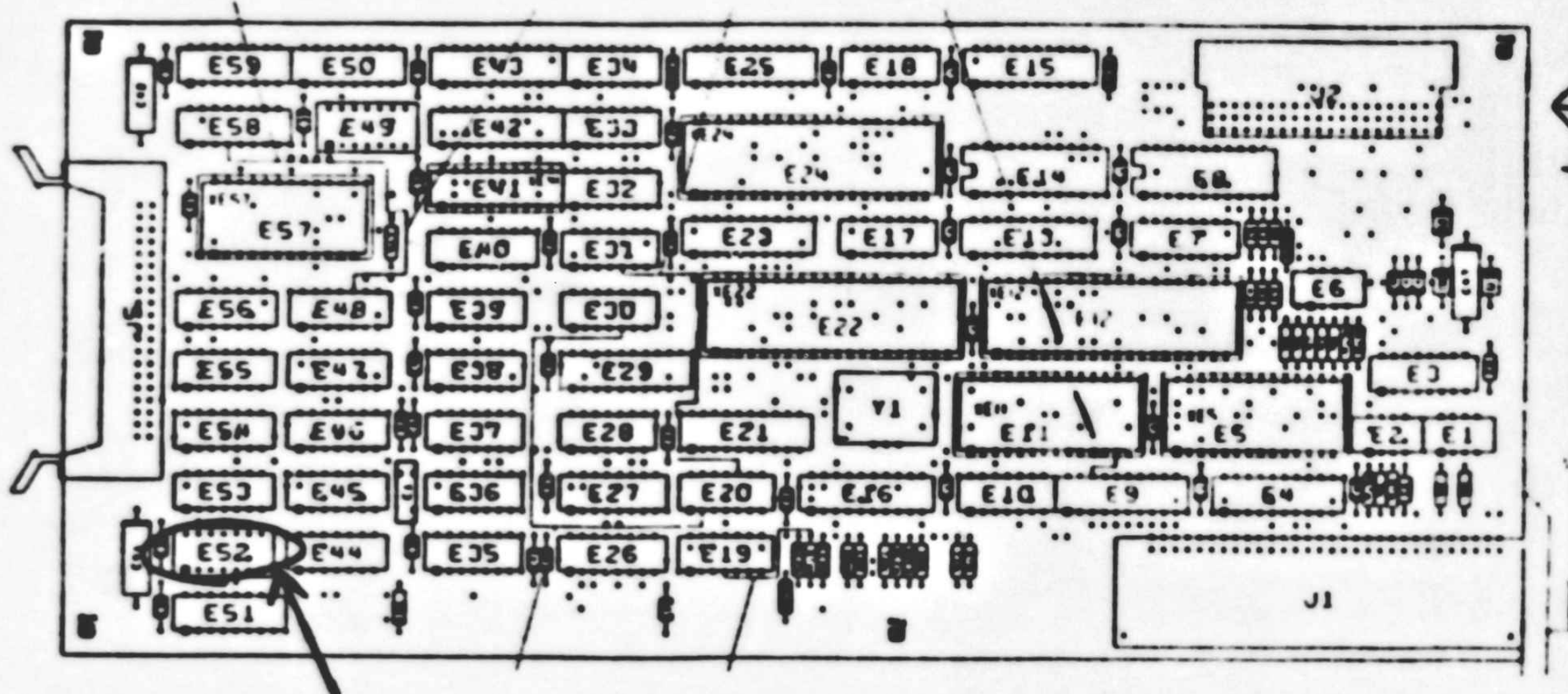
FIGURE 1

PC 344-FCO-3

FCO PC3XX-AA-50001

PAGE 3 OF 4

QUICK CHECK: Presence of Chip in Location E52. (74S74).



PC 377-FEO-4

d	i	g	i	t	a	l

FCO PC3XX-AA-S0001

PAGE 4 OF 4

**REWORK PROCEDURE
FOR
FCO PC3XX-R0001**

**Removal and Replacement of the PC3XX-AA Real Time Interface.
This procedure can also be found in the PC350/380 Pocket
Service guide.**

1. Power-off the System.
2. Disconnect any cables to the rear of the Unit.
3. Remove the top cover.
4. Disconnect any device attached to the internal cable 62-pin connector.
5. Remove the internal cable by unscrewing the two screws at the top of the cable and the two screws at the bottom of the connector.
6. Slide the internal cable up to disconnect it from the real time interface.
7. Remove the three screws holding the combined card cage shield-door to the card cage. Remove the entire shield-door assembly.
8. Pull the I/O board handle out about one inch.
9. Turn the handle to the right 90 degrees.
10. Slide the real time interface straight out.
11. Replace the real time interface by following these steps in reverse.
12. Let the power-up diagnostics run to completion before connecting any external devices.

PC344-FCO-5

24-Aug-1987
PC3XX-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number	REV	Rel. Date	SB#	Title
-PC3XX--TT-01	A	1-Sep-84	348	Real time interface module (RTI)
-PC3XX--TT-02	A	8-Feb-85	369	Real time interface fails/PC380

PC3XX-TT-1

digital	FIELD SERVICE TECH TIP					Option Designator PC3XX	
	☐ 12 Bit	☐ 16 Bit	☐ 18 Bit	☐ 32 Bit	☐ 36 Bit	Category PC	
Title Real Time Interface Module (RTI)					Tech Tip No. PC3XX-TT-01		
Processor Applicability P C 3 0 0			Cross reference N/A		Tech Tip Rev A		Page 1 of 1
Author Stan Wojta <i>Stan Wojta</i>				Mgr./Supv. Approval Steve Zagame			
Location MRO2-4/E79			Mail Stop		Date 28 Aug. 84		
CSSE Approval Stan Wojta <i>Stan Wojta</i>				Date 28 Aug. 84			
FSPSG APPROVAL				Date			

The real time interface module will not run with A PC380. Power up diagnostics has an error. Return to SR17 for the latest revision. Module number is 54-15539.

Workable revision is etch Rev D, CS 5415539-0-RA3 Rev B and CS5415539-0-RA4 Rev C or later.

Quick check is the presence of E52.

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EN-01584-12-0000(700)

PC3XX-TT-2

digital	FIELD SERVICE TECH TIP					Option Designator PC3XX
	☐ 12 Bit	☐ 16 Bit	☐ 18 Bit	☐ 32 Bit	☐ 36 Bit	Category PERSONAL COMPUTERS
Title REAL TIME INTERFACE FAILS ON A PC380					Tech Tip No. PC3XX-TT-02	
Processor Applicability P C 3 8 0			Cross Reference PC3XX-TT-01		Tech Tip Rev A	Page 1 of 4
Author Mark Hopewell			Mgr./Supv. Approval <i>Mark Hopewell</i>			
Location MR02-4/E79			Mail Stop MPO2-4/E79		Date 08-FEB-1985	
CSSE Approval MARK HOPEWELL			<i>Mark Hopewell</i>		Date 08-FEB-1985	
FSPSG Approval					Date	

PROBLEM: REAL TIME INTERFACE (PC3XX-AA) FAILS ON A PC380.

When a revision A1 or B1 PC3XX-AA (54-15539-01) is used on a PC380 the power-up diagnostics will fail with the following error, "060001/000046". (See figure 1, page 2.)

SOLUTION:

Remove out of rev 54-15539-01 and replace with a revision B2 or greater. Refer to the PC350 or PC380 Pocket Service Guide or page 4 of this Tech Tip of detailed removal and replacement procedure.

**** NOTE ****

A quick check for the proper revision level is a chip in location E52. (See figure 2, page 3.) Presence of chip indicates proper revision level for PC380.

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Page Number 2	Page Revision A	Publication Date FEBRUARY 1985
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digital	FIELD SERVICE TECH TIP		Option Designator PC3XX	
	Continuation Sheet		Category PC	
Title REAL TIME INTERFACE FAILS ON PC380			Tech Tip No. PC3XX-TT-02	
Processor Applicability P C 3 8 0		Cross Reference PC3XX-TT-01	Tech Tip Rev A	Page 2 of 4

Your Professional has hardware problems. Please record the numbers on the right hand side of the screen, then press RESUME.

Device ID = 000046

Error code = 00001

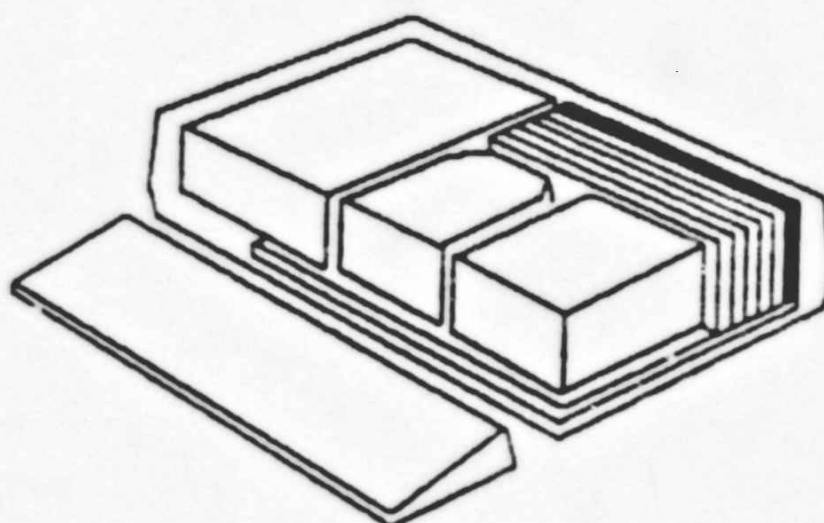


FIGURE 1

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90-01005-12-001A(700)

PC3XX-TT-4

digital	FIELD SERVICE TECH TIP		Option Designator PC3XX	
	Continuation Sheet		Category PC	
Title REAL TIME INTERFACE FAILS ON PC380			Tech Tip No. PC3XX-TT-02	
Processor Applicability P C 3 8 10				

QUICK CHECK: Presence of Chip in Location E52. (74S74).

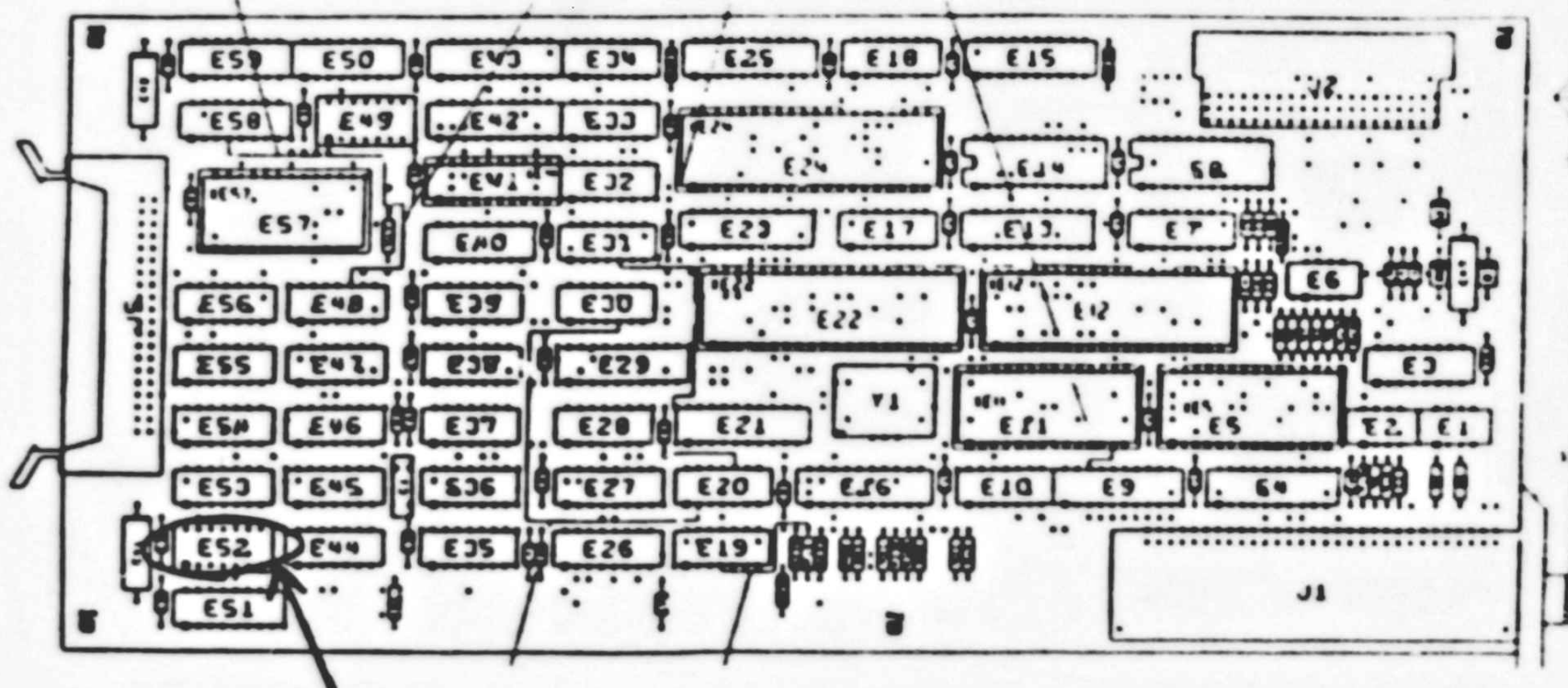


FIGURE 2

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04-01000-12-00V4/700

PC3XX-TT-5

digital	FIELD SERVICE TECH TIP		Option Designator PC3XX	
	Continuation Sheet		Category PC	
Title REAL TIME INTERFACE FAILS ON PC380			Tech Tip No. PC3XX-TT-02	
Processor Applicability P C 3 8 0		Cross Reference PC3XX-TT-01	Tech Tip Rev A	Page 4 of 4

REMOVAL AND REPLACEMENT PROCEDURE

1. Power off system.
2. Disconnect any cables to the rear of the system.
3. Remove top cover.
4. Disconnect any devices attached to the 62 pin connector.
5. Remove the internal cable by unscrewing the two screws at the top of the cable and the two screws at the bottom of the cable.
6. Slide the internal cable to disconnect it from the Real Time Interface.
7. Remove the three screws holding the combined card cage shield door to the card cage assembly. Remove the entire shield door assembly.
8. Pull the I/O board handle out about one inch.
9. Turn the handle to the right 90 degrees.
10. Slide the Real Time Interface straight out.
11. Replace the Real Time Interface by following these steps in reverse.
12. Run the power-up diagnostics and the disk based maintenance service diagnostics to completion before connecting any external devices.

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000000-12-00VA/700

PC3XX-TT-6

24-Aug-1987
PC8E-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number	REV	Rel. Date	SB#	Title
-----	---	-----	---	-----
-PC8E--TT-01	A	2-Jan-75		Converting PC8E, PC8I, PC8L

PC8-E-TT-1

COMPANY CONFIDENTIAL

digital	FIELD SERVICE TECHNICAL MANUAL				Option or Designator
	12 Bit ☒	16 Bit ☐	18 Bit ☐	36 Bit ☐	PC8E

Title CONVERTING PC8E, PC8I, PC8L				Tech Tip Number PC8E - TT-1	
All Processor Applicability		Author W. Freeman	Rev A	Cross Reference	
BE	8I	8L			
		Approval W. E. Cummins	Date		

Customers desiring to remove their high speed reader/punch from PDP-8I to use on their PDP-8E must do the following:

- 1) Purchase an M840 (the high speed reader/punch board that plugs into the omnibus). - Price \$750 - cable(s) included.
- 2) Have Field Service convert the reader/punch combination (PC04).

The Field Service charge is as follows:

Reader/punch	-	\$735.
Reader alone	-	505.
Punch alone	-	325.

The above Field Service prices do not include travel.

The Field Service conversion procedure is as follows:

To convert a PC8I to a PC8E:

Parts required:

Part Number	Name	Quantity
M840 with cable	PC Control	1
M044	Solenoid Drivers	3
70-06268-1	Wired logic	1
*70-07267	Photo Array	1
*G918D	Photo Amplifier	1

* Not required if ECO #PC04-00046 is installed.

Follow these instructions:

- 1) Remove front cover and cage.
- 2) Check the PC04 for its ECO status.
 - A) Are the reader motor drive resistors 25 ohms 40 watts? If not, install ECO #PC04-00022.
 - B) Is the +5VDC off by more than $\pm .5V$? If so, install ECO's #5408308-00003 and 4.
 - C) Is the feed switch causing the motor to stall? If so, install ECO's #5408310-0000 1 and 2 and PC04-00025.
- 3) Remove old photo cell array and shim. (Dispose of shim.)
- 4) Unsolder or unwrap wires listed in Table A.

Note: Do not cut off anymore wire than necessary.

PC8-E-TT-2

Title CONVERTING PC8E, PC8I, PC8L						Tech Tip Number PC8E-TT-1	
All Processor Applicability				Author W. Freeman		Rev A	
				Approval W.E. Cummins		Date 11/14/73	
				Cross Reference			

- 5) Remove old wire logic.
- 6) Place new wired logic in PC04.
- 7) Replace wires that were removed in step 4.
- 8) Install modules in the wired logic, using the PC04 UML (PC04-0-3 Rev. B).
- 9) To "Set up" the reader use the PC04/PC05 (Feed Hole Strobe) Maintenance Manual, chapter 5.3.
- 10) Replace the front cover and cage.
- 11) Perform the customer acceptance procedure.
- 12) Make the log entry.

TABLE A

<u>Wire #</u>	<u>Logic Conn.</u>	<u>Color</u>	
10	B06V*	Green	
18	A08A	Gray-Red	
19	AC8B	Gray-Yellow	
20	B02U	White	Punch
21	B08C	Black	Punch
22	A01V	Yellow	
23	B07A ^o	White-Black	
24	A08F	White-Yellow	
25	A02B**	Brown	
30	B03R	Brown	
31	B03S	Brown	
32	B04R	Orange	
33	B04S	Orange	
34	B05R	Yellow	
35	B05S	Yellow	
36	B06R	Violet	
37	B06S	Violet	
52	B02D*	Blue	Punch

* If there isn't any wire on B02D and the wire on B06B is blue ECO #PC04-00022 must be installed.

** If ECO #PC04-00046 hasn't been installed the wire on AD2B is on A02N and should be moved to A02B when installing new logic block.

If white-black wire is on B07C instead of B07A, ECO #PC04-00025 should be installed.

digital	FIELD SERVICE TECHNICAL MANUAL				Option or Designator
	12 Bit ☒	16 Bit ☐	18 Bit ☐	36 Bit ☐	PC8E
Title CONVERTING PC8E, PC8I, PC8L					Tech Tip Number PC8E-TT-1
All	Processor Applicability			Author W. Freeman	Cross Reference
	8E	8I	8L	Rev A	
				Approval W.E.Cummins	Date 11/14/73

Customers desiring to remove their high speed reader/punch from the PDP-8/L to use on their PDP-8/E, must do the following:

Purchase an M840 (the high speed reader/punch control board that plugs into the OMNIBUS).

Price - \$750. cable(s) included.

Have Field Service modify the PC04 using ECO #46.

The Field Service charge is as follows:

To convert the reader/punch combination (PC04)

The reader/punch - \$545.

The reader alone - \$385.

The punch alone - \$160.

The above Field Service prices do not include travel.

To convert PP8I to PP8E:

Parts required:

- 1 - M840
- 3 - M044
- 1 - 70-06268-1

Skip steps 2A, 2C, 3 and 9 of PC8I to PC8E conversion.

To convert PR8I to PR8E:

Parts required:

- 1 - M840
- 1 - *G918D
- 1 - 70-06268-1
- 1 - *70-07267

* Not required if ECO PC04-00046 is installed.

Conversion procedure same as "PC8I to PC8E".

COMPANY CONFIDENTIAL

PC8E-TT-4

24-Aug-1987
PC8I-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number -----	REV ---	Rel. Date -----	SB# ---	Title -----
-PC8I--TT-02	A	2-Jan-80		Converting PC8E, PC8I, PC8L

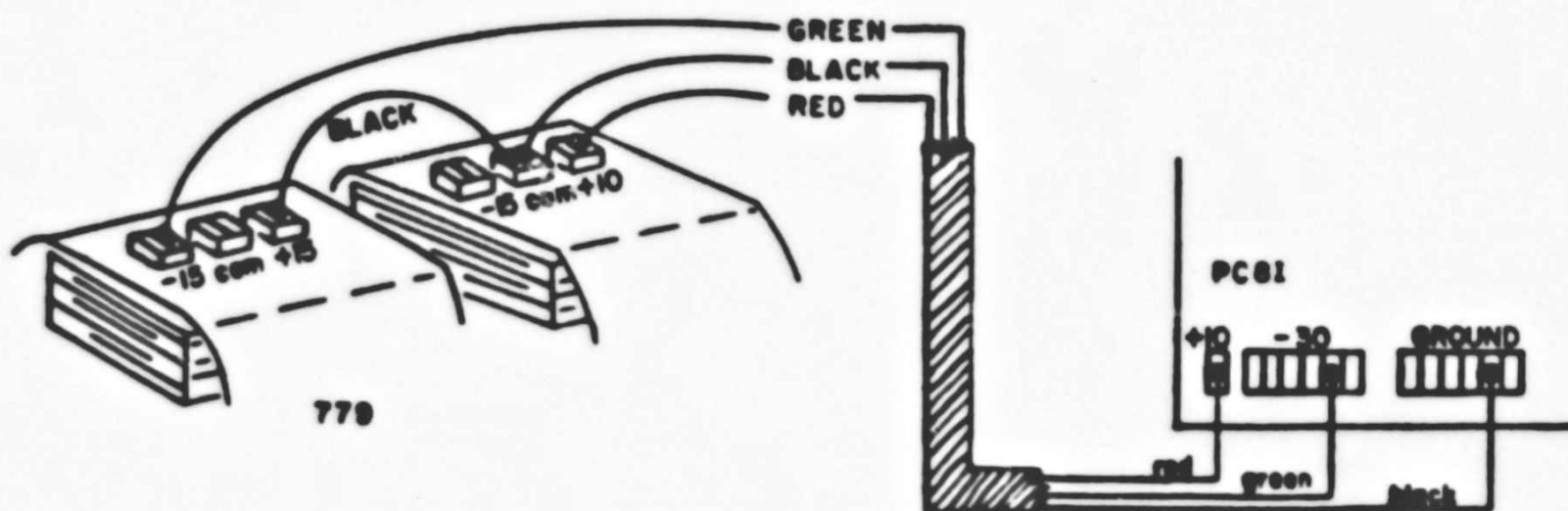
PC8I- TT-1

Title										PC8I INSTALLATION PROCEDURE										Tech Tip Number					PC8I-TT-1																																				
All		Processor Applicability										Author										Art Newbery										Rev					0					Cross Reference																			
		8I										Approval										Bill Cummins										Date					07/31/72																								

Refer to print D MU 8I 0-17 for placement of modules and cables. The 779 power supply is mounted at the rear of the 8I cabinet just above the track for the 8I logic with 9, 10/32 screws. AC power from the 704A supply is brought to terminals 1 and 2 on the lower transformer in the 779. Output from this transformer is brought to the power channel at the top of the cabinet. To obtain 30 volts for the reader motor, the outputs of -15 and +15 in the upper portion of the 779 are brought directly to the reader motor with +15 used as a ground reference. (see diagram below) The reader light is supplied with +10 volts from the power channel.

For neatness, all wires are spiral wrapped together and tied to the cabinet frame. Be certain to leave enough slack so that when the PC8I is pulled out to the end of the tracks, no strain is imposed on these power lines, the AC power cord, or the flexprint cables. A 6/32 machine screw and nut are used with a 1/4" cable clamp to tie down the power cable at the rear on the reader side of the PC8I pan. The AC cord from the power channel to the PC8I is tied down with the power wires from the 779 and other leads from the power channel but is not spiral wrapped with them.

Arthur Newbery April 1969



PC8-I-TT-2

Title						Tech Tip	
CONVERTING PC8E, PC8I, PC8L						Number PC8I TT#2	
All			Processor Applicability			Author W. Freeman Rev 0	
						Cross Reference	
			Approval W.E. Cummins			Date 11/14/73	
						PC8E TT#1	

This Tech Tip is for Cross Reference only.

Page

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11008-12-R277-(79V)

rev a

JAN 80
PC8-I-TT-3

DEC-O-LOG

Engineering Change Order Log

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

ECO SYNOPSIS pages are updated and published continuously in conjunction with the issuance of ENGINEERING CHANGE ORDERS for all DEC products and are available upon subscription from:

DIGITAL EQUIPMENT CORPORATION
FIELD SERVICE INFORMATION CENTER
MAYNARD, MASSACHUSETTS 01754

ECO SYNOPSIS FOR LOGIC OR OPTION

PC8-L 9 CONTROL
PAPER TAPE READER 8 INCH

PC8-L

PRODUCT LINE

PUBLICATION DATE
OF THIS SYNOPSIS PAGE

PAGE
REVISION

PC8-L

FEBRUARY 1972

A

2046 R6012

ECO NO.	LOGIC OR OPTION SERIAL NO.'S AFFECTED	FIELD CODE	SYNOPSIS
PC8-L 00001	PC8-L	M	MAR 67 - ADDS HOLES FOR MOUNTING OF THE CABLE STRAIN RELIEF. IN-PLANT EFFECTIVITY - PHASE-IN "M" CODED ML REVISION "A" IS CREATED
PC8-L 00002	N.A.	"	MAY 67 - ADDS A CHAD BOX PRINT. IN-PLANT EFFECTIVITY - DOCUMENTATION CHANGE ONLY "M" CODED ML REVISION "B" IS CREATED
PC8-L 00003	PC8-L	A	DEC 67 - ADDS DECALS TO IDENTIFY READER AND PUNCH CABLES. IN-PLANT EFFECTIVITY - PHASE-IN "M" CODED ML REVISION "C" IS CREATED

PC8-L-D-O-C-1

PCB-L
C0004

ALL PCB-L
FIELD RETROFIT
AS REQUIRED

P

DEC 69 - CHANGES M901 TO M926 SO RESISTORS CAN BE ADDED IN SERIES WITH THE PUNCH OUTPUT TO ELIMINATE RANDOM BIT PICKUP CAUSED BY CABLE CROSSTALK. FORTRAN AND OTHER OPERATIONAL PROGRAMS WHICH UTILIZE THE READER AND PUNCH MOST EXTENSIVELY ARE LIKELY TO BE AFFECTED.

IN-PLANT EFFECTIVITY - PHASE-IV AS OF 1-15-69
FIELD EFFECTIVITY - ALL PCB-L - FIELD RETROFIT AS REQUIRED
"F" CODED

TIME TO INSTALL AND TEST - 1.0 HOURS
DOCUMENTATION \$5.00 PARTS \$27.00
ORDERED KITS WILL INCLUDE FCO AND PARTS.

REFERENCE ECO PC04-00015

FIELD CODE

F - Field action may be required
D - Design ECO
P - Print or Wire List change
M - Mechanical ECO

SYMBOL

> - ECO applicable to future production

ECO CHARGES

Charges are coded within the synopsis (1*BX**SY**SZ)
BX - Charge for Space and updated prints only
SY - Charge for necessary parts only
SZ - Charge for on site labor only. Installation by DEC
NOTE Charges are additive (BX+SY+SZ = Total on site charge for ECO installation by DEC)

MASTER DRAWING LIST REVISIONS

REV	ECO NUMBER	REV	ECO NUMBER
A	PCBL-11111		
B	PCBL-11112		
C	KL-11151		
D	PC04-11111		
E	PCBL-11111		
F	PC04-11111		

WIRE LIST REVISIONS

REV	ECO NUMBER	REV	ECO NUMBER

Page 1

PC8-L-D-0-4-2

digital

EQUIPMENT
CORPORATION

MO.	DAY	YR
12	16	69
12	17	69

X
X

DOCUMENTATION PROJECT NUMBER

AC?	PAGE, LINE	TYPE OR DISCRETE NO
-----	------------	---------------------

2	7	0	7	5	4	4
---	---	---	---	---	---	---

MANUFACTURING PROJECT NUMBER

ACT	PROG. LINE	TYPE OR DISCRETE NO
-----	------------	---------------------

UNIT NAME CABLE CONN. M926 TO W.O.33

MODEL NO. 7407057 & 7006145

CHANGE TESTED
IN SERIAL NO. _____ BY _____

ESTIMATED TIME TO INSTALL

PARTS ADDED OR DELETED
 (IF YES REFER TO SEPARATE SHEET)

SHOP MODEL AFFECTED

SYSTEMS PROGRAMS AFFECTED

DIAGNOSTIC PROGRAMS AFFECTED

TECHNICAL PUBLICATIONS AFFECTED

YES	NO
X	
X	
	X
	X
	X

BREAK-IN POINT
(DATE/SERIAL NOS)

JAN 15

CROSSTALK ON THE PUNCH CABLE. RANDOM BIT
PICK-UP.

ADDING RESISTORS IN SERIES WITH THE PUNCH
OUTPUT.
(CHANGES TYE M901 TO AN M926)

NUMBER

D-1A-7467557-0-0	0	A
------------------	---	---

Field Service Co.

OTHER _____ DATE _____

PRODUCT LINES AFFECTED

21

EMS SHEET 1 OF 2

PC 8-2-FCO-1

digital EQUIPMENT
CORPORATION

**PARTS LIST ENGINEERING
CHANGE ORDER**

CHANGE NO. PC8L-00004

DOCUMENTATION PROJECT NUMBER

ACT PROD.LINE TYPE OR DISCRETE

2 1 7 0 1 7 1 5 1 4 1

MANUFACTURING PROJECT NUMBER

ACT PROD.LINE TYPE OR DISCRETE

STOCK DISPOSITIONS CODE

SC=SCRAP RN=RETAIN

RK=REWORK NC=NO CHANGE

ACTION TAKEN

PARTS ADDED

NPO=NO PARTS ON
ORDER

POR=PARTS ON ORDER
IS=PARTS IN STOCK

PRODUCTION
ENGINEER

E.R. TOMPKINS

DESIGN
ENGINEER

M. ARSENAULT

PARTS DELETED

ITEM NO.	PART NO.	NO. DEL. PER UNIT	STOCK DISP.	DESCRIPTION
1	M901	1		CONNECTOR CABLE

PARTS ADDED

ITEM NO	PART NO	NO REQD PER UNIT	DESCRIPTION	ACTION TAKEN
1	M926	1	CONNECTOR CABLE	

SHEET 2 OF 2

PC8-L-FCO-2

24-Aug-1987
PC8L-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number -----	REV ---	Rel. Date -----	SB# ---	Title -----
-PC8L--TT-01	0	2-Jan-80		Converting PC8E, PC8I, PC8L

PC8L-TT-1

digital	FIELD SERVICE TECHNICAL MANUAL				Option or Designator	
	12 Bit ☒	16 Bit ☐	18 Bit ☐	36 Bit ☐	PC8-L	
Title CONVERTING PCSE, PC8L, PC8L					Tech Tip Number PC8L TT#1	
Processor Applicability			Author W. Freeman		Rev d	
All 8			Approval W. E. CUMMINGS		Date 11/14/73	
					Cross Reference PCSE TT#1	

THIS TECH TIP IS FOR CROSS REFERENCE ONLY.

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Page 1	Page Revision A	Publication Date JAN 80
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PRINTED IN U.S.A.

PC8-L-TT-2

[illegible]

XXXXXX
XXXXX
XX

PCLE11

[illegible]

25-Aug-1987
PCL11-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number -----	REV ---	Rel. Date -----	SB# ---	Title -----
-PCL11--TT-01	0	6-Apr-78		Differntl drvr mo' for TDM bus
-PCL11--TT-02	A	9-Apr-86		Power harness shorting out

PCL11-TT-1

digital	FIELD SERVICE TECHNICAL MANUAL				Option or Designator PCL 11
	12 Bit ☐	16 Bit ☒	18 Bit ☐	36 Bit ☐	SPECIAL SYSTEMS

Title DIFFERENTIAL DRIVER MODULE FOR TDM BUS				Tech Tip Number PCL11-TT-1	
Author Jim Coburn		F.S. Office Nashua, NH	Date 4.6.78	Revision 0	
Processor Applicability		Mgr./Sup. Skip Dalton	Date 4.6.78	Cross Reference	
All	11	Approval	Date		

The first PCL11 installations had a TTL version of the TDM bus. However, most of the U.S. installations were done with a differential TDM bus.

These versions replace the cables plugged into slot nine with a differential bus driver module, M7998 plugged into slot nine. This module had three berg headers which were used for the interconnect cables. The insulation on these cables was getting damaged by rubbing on the slot eight module. To solve this, engineering has moved this bus driver module to slot one by adding the additional wires from slot nine to slot one. In addition to moving this module to slot one, they have changed the connector spacing, added a maintenance switch, and added some additional logic for future use. This module has been assigned the number M8003 and will be available in July.

The M8003 will be used to replace the M7998 which is being phased out. Do not use an M7998 to replace an M8003.

On a properly operating system, it is not necessary to replace the M7998s. However in a critical system, the maintenance switch on the M8003 would justify replacing all M7998s in that system with M8003s. Note that it is not necessary to replace all M7998's at one time. A mixture of M7998s and M8003s will work fine.

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PRINTED IN U.S.A.

EN-011898-12-R1276(78Y)

PCL11-TT-2

Field Service **TECH TIP**



Page 1 of 1

Title Power Harness Shorting Out
Cross Reference N/A

Category Hardware Rev A
Option PCL11
TECH TIP No PCL11-TT-02

Problem/Solution

PROBLEM:

The power harness (76-07206-01) to the PCL11 backplane has an aluminum serial tag that can short out against the backplane.

SOLUTION: An ECO has been written to change the serial tag from aluminum to paper (ECO 7607206-01-NU003). This has a break-in/effectivity of Mar. 31, 1986.

Approvals

Author Maurice Williams	ESD&P TECH TIP Coordinator Bruce J. Conley	CSSE <i>Maurice Williams</i>
Author's Manager Tom Lowery		Field Service Product Safety
Release Date 09 April 1986		Revision A

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[illegible]

PCL11-B

[illegible]

24-Aug-1987
PCL11-B-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number -----	REV ---	Rel. Date -----	SB# ---	Title -----
-PCL11-B-TT-01	0	28-Oct-80		PCL11-B diags on VAX
-PCL11-B-TT-02	A	11-Apr-83		PCL11-B is now auto config on VAX

PCL11-B-TT-1

digital	FIELD SERVICE TECHNICAL MANUAL				Option or Designator PCL11-B
	12 Bit ☐	16 Bit ☒	18 Bit ☐	36 Bit ☐	

Title PCL11-B DIAGNOSTICS ON VAX			Tech Tip Number PCL11-B-TT-1	
Author MIKE CARLTON	F.S. Office NASHUA	Date 10/28/80	Revision	
Processor Applicability	Mgr. Sup. Jim Coburn	Date 10/28/80	Cross Reference	
All VAX	Approval <i>Jim</i>	Date 10/28/80		

If you have a PCL11-B on a VAX and have problems running diagnostic ESDPB giving you an error in Test 20, Error #305, your problem is probably due to you not attaching the receiver to the Diagnostic Supervisor.

The following procedure should be followed when attaching the PCL11-B.

```
DS> LOAD ESDPB
DS> ATTACH DW780 SBI DWO 3 4
DS> ATTACH PCL11-B DWO LTA(A) (B) (C) (D)
DS> ATTACH PCL11-B DWO LRA(A) (B) (C) (D)
DS> SELECT LTA(A), LRA(A)
DS> START/FLAGS
```

NOTE: SELECT ONLY ONE PCL11-B AT A TIME

- A. TDM BUS ADDRESS
- B. PCL UNIBUS ADDRESS (i.e., 764200)
- C. PCL UNIBUS VECTOR (i.e., 570)
- D. BR LEVEL (USUALLY 5)

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Page 1	Page Revision 0	Publication Date October 1980
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PRINTED IN U.S.A.

EN-011898 12 R1276(79V)

PCL11-B-TT-2

digital	FIELD SERVICE TECH TIP					Option Designator PCL11-B	
	☐ 12 BIT	☐ 16 BIT	☐ 18 BIT	☒ 32 BIT	☐ 36 BIT	Category SYSTEMS	
Title PCL11-B IS NOW AUTO CONFIGURABLE ON VAX					Tech Tip No. PCL11B-TT-2		
Processor Applicability V A X			Cross Reference N/A		Tech Tip Rev A	Page 1 of 2	
Author Michael R. Carlton				Mgr./Supv. Approval J. B. Coburn <i>JBC</i>			
Location Hudson, N.H.			Mail Stop UHO		Date 3/9/83		
CSSE Approval <i>Jim Coburn</i>				JAMES COBURN		Date 3/25/83	
PSG Approval <i>Eric Horton</i>				ERIC HORTON		Date 4/11/83	

TO FIND OUT WHERE TO SET THE ADDRESS AND VECTOR FOR A PCL11 BUS SWITCH UNDER VMS, THE SYSGEN UTILITY CAN BE INVOKED AND CONFIG MODE USED TO SET THE ADDRESS AND VECTORS FOR ALL DEVICES ON THE SYSTEM. THIS PROCEDURE WILL SAVE A LOT OF TIME IN CONFIGURING A VMS SYSTEM AS VMS WILL TELL YOU WHERE IT WANTS TO SEE THE ADDRESS AND VECTORS OF ALL UNIBUS DEVICES ON THE SYSTEM.

THE FIRST THING TO DO IS TO LOG INTO THE FIELD SERVICE ACCOUNT ON THE SYSTEM. THEN TYPE IN THE COMMAND TO RUN THE SYSGEN UTILITY - MCR SYSGEN.

WHEN SYSGEN STARTS UP IT COMES BACK WITH THE PROMPT "SYSGEN>". IF YOU WISH TO OBTAIN A FILE COPY OF THE CONFIG FILE YOU WILL GENERATE, TYPE THE COMMAND /OUTPUT=FILENAME.EXT. THIS WILL WRITE THE FILE INTO THE SYSMANT AREA FOR PRINTING LATER. IT IS RECOMMENDED THAT FILES BE UNIQUELY NAMED FOR EACH SYSTEM WHICH WILL BE CONNECTED TO THE PCL11.

TO ENTER CONFIGURE MODE UNDER SYSGEN, TYPE CONFIG TO THE SYSGEN PROMPT. SYSGEN WILL THEN RESPOND WITH THE PROMPT "DEVICE>". NOW ENTER THE DEVICE NAME, SPACE, QUANTITY OF THAT DEVICE ON THE SYSTEM FOLLOWED BY A (CR).

FOR EXAMPLE:

DEVICE> DZ11 4

THIS TELLS THE CONFIG UTILITY THAT YOU HAVE 4 DZ11'S ON THE SYSTEM YOU WANT TO CONFIGURE.

CONTINUE ENTERING ALL THE DEVICES YOU HAVE ON THE SYSTEM IN THE SAME MANNER AND WHEN YOU ARE FINISHED, TERMINATE THE CONFIG MODE BY TYPING A CONTROL Z (^Z).

IF YOU SPECIFIED AN OUTPUT FILE, SYSGEN WILL WRITE THE FILE, IF YOU DID NOT SPECIFY AN OUTPUT FILE, SYSGEN WILL DISPLAY THE CONFIGURATION ON THE TERMINAL FOR YOU.

IN THE EXAMPLE BELOW, A PCL11, 4 DZ11'S, A DMR11, A LP11, AND AN RK611 ARE USED AS THE SYSTEM CONFIGURATION.

```
$ MCR SYSGEN (CR)
SYSGEN> CONFIG/OUTPUT=SYSTEM_A.CNF(CR)
```

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Page Number 2	Page Revision A	Publication Date APRIL 1983
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digital	FIELD SERVICE TECH TIP	Option Designator PCL11-B	
	Continuation Sheet	Category SYSTEMS	
Title PCL11-B IS NOW AUTO CONFIGURATION ON VAX		Tech Tip No. PCL11B-TT-2	
Processor Applicability V A X		Cross Reference N/A	Tech Tip Rev Page A 2 of 2

```

DEVICE> PCL11          !PCL11 BUS SWITCH
DEVICE> DZ11 4         !4 DZ11'S
DEVICE> DMC11          !DMR/DMC11
DEVICE> LP11           !LINE PRINTER
DEVICE> ^Z
SYSGEN> EXIT
$

```

THE RESULTING FILE "SYSTEM_A.CNF" WILL LOOK LIKE THIS:

```

DEVICE: RK611    NAME: DMA    CSR: 777440    VECTOR: 210    SUPPORT: YES
DEVICE: LP11     NAME: LPA    CSR: 777514    VECTOR: 200    SUPPORT: YES
DEVICE: DMC11    NAME: XMA    CSR: 760070*   VECTOR: 300*   SUPPORT: YES
DEVICE: DZ11     NAME: TTA    CSR: 760110*   VECTOR: 310*   SUPPORT: YES
DEVICE: DZ11     NAME: TTB    CSR: 760120*   VECTOR: 320*   SUPPORT: YES
DEVICE: DZ11     NAME: TTC    CSR: 760130*   VECTOR: 330*   SUPPORT: YES
DEVICE: DZ11     NAME: TTD    CSR: 760140*   VECTOR: 340*   SUPPORT: YES
DEVICE: PCL11    NAME: XPA    CSR: 764200    VECTOR: 350    SUPPORT: NO

```

THIS SHOULD HELP TO ELIMINATE ANY POSSIBLE CONFUSION AS TO WHAT VECTORS SHOULD BE ASSIGNED TO WHAT DEVICES UNDER VMS WHEN A PCL11 IS INSTALLED ON THE SYSTEM.

FOR FURTHER INFORMATION ON SYSGEN, REFER TO THE VAX/VMS UTILITIES REFERENCE MANUAL OR TYPE "HELP CONFIG" TO THE SYSGEN> PROMPT.

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84-01585-12-0000(700)

PCL11-B-TT-4

24-Aug-1987
PDL11-INDEX.A
REV A

MICROMEDIA PUBLISHING

Tech Tip Index

Tech Tip Number -----	REV ---	Rel. Date -----	SB# ---	Title -----
-PDL11--TT-01	0	8-Jun-76		PDL11 sys checkout & claihb
-PDL11--TT-02	0	1-Aug-76		PDL11 based DR11-K's
-PDL11--TT-03	0	13-Aug-76		PDL11 wiring labling clarifctn

PDL11-TT-1

	FIELD SERVICE TECHNICAL MANUAL				Option or Designator
	12 Bit ☐	16 Bit ☒	18 Bit ☐	36 Bit ☐	PDL-11 Analog

625				Title PDL-11 SYSTEM CHECKOUT AND CALIBRATION		Tech Tip Number PDL11-TT-1	
All		Processor Applicability		Author Oscar E. Vega Rev Ø		Cross Reference	
11s				Approval Merle Wagner Date 6/8/76			

In order to insure that the H321 Loc boxes and the XL01/CC55's transducers are working properly the following diagnostics should be performed:

1. Run DR11-K diagnostics including any required Coulter interface patches found below.
2. Run AR11 diagnostics.
3. Run the Loc box lamp and switch test found below.
4. XL01 adjustment test.

NOTE: These temporary patches are to be used until XXDP compatible diagnostics are available.

PATCH TO DR11-K DIAGNOSTIC MD-11-DZDRG-B2

Note that there is an error in paragraph 8.2 Location DRBRL, not BASEBR, contains the DR11-K BR 1 el (in bits 5-7 as in the PSW). Switch register settings are:

	H322 Use	Coulter Use
Non latching bits	000000	177777
Interrupting bits	177777	170000
Positive bits	000000	000000
Transition bits	000000	170000

This patch is only needed for the Coulter test. Its purpose is to invert the listing of events so that the print out on the Coulter card matches the diagnostic output. The logic test must be run before the Coulter test.

11764	010103		MOV R1,R3
11766	005743		TST -(R3)
11770	014300	5\$:	MOV -(R3),R0
11772	004737	012012	JSR PC,40\$
11776	022703	014500	CMP #BUFFER,R3
12002	001731		BEQ 1\$
12004	000771		BR 5\$

The results are binary coded decimal. There are bit combinations which are errors and should not appear on the Coulter output. As a troubleshooting guide, these are printed as shown:

1010 = :
 1011 = ;
 1100 = <
 1101 = =
 1110 = >
 1111 = ?

Title PDL-11 SYSTEM CHECKOUT AND CALIBRATION				Tech Tip Number PDL11-TT-1	
All	Processor Applicability			Author Oscar E. Vega	Rev 0
	119			Approval Merle Wagner	Date 6/8/76
Cross Reference					

LOC BOX LAMP AND SWITCH TEST

300	002000				.WORD SUBR
302	000340				.WORD 340
1000	012737	000240	777776	START:	MOV #240,@PSW
1006	012706	001000			MOV #1000,R6
1012	012737	000100	167770	RESET:	MOV #100,CSR
1020	000001				WAIT
1022	000773				BR RESET
1774	167772			IN:	167772
1776	167774			OUT:	167774
2000	017700	177770		SUBR:	MOV @IN,R0
2004	017701	177766			MOV @OUT,R1
2010	040100				BIC R1,R0
2012	047777	177756	177756		BIC @IN,@OUT
2020	060077	177752			ADD R0,@OUT
2024	012777	177777	177742		MOV #-1,@IN
2032	000002				RTI

Use appropriate interrupt vectors if not 300/302 as above.
Load appropriate DR11-K addresses in locations 1016, 1774 and 1776.
Pressing the LOC box switch will invert the status of the corresponding lamp.

For operation on an interrupt basis, start program at 1000.
For operation without interrupts, make the following changes and start program at 2000 (this may miss some switch operations occasionally):

2032	105203	WAIT:	INC R3
2034	001376		BNE WAIT
2036	000760		BR SUBR

XL01 ADJUSTMENT TEST

1000	012737	020001	770400	START:	MOV #20001,@ARCSR
1006	105777	177772		TEST:	TSTB @ARCSR
1012	100375				BPL TEST
1014	013700	170402			MOV @ARBUF, R0
1020	162700	000004			SUB #4,R0
1024	100432				BMI ZERO
1026	162700	000014			SUB #14,R0
1032	100425				BMI FOUR
1034	162700	000060			SUB #60,R0
1040	100420				BMI SIX
1042	162700	001530			SUB #1530, R0
1046	100407				BMI SEVEN
1050	162700	000060			SUB #60, R0
1054	100406				BMI THREE
1056	162700	000014			SUB #14, R0
1062	100405				BMI ONE
1064	000412				BR ZERO
1066	012701	000004		SEVEN:	MOV #4,R1
1072	062701	000002		THREE:	ADD #2,R1
1076	005201			ONE:	INC R1
1100	000404				BR ZERO

d i g i t a l	FIELD SERVICE TECHNICAL MANUAL				Option or Designator
	12 Bit ☐	16 Bit ☒	18 Bit ☐	36 Bit ☐	PDL-11
					Analog

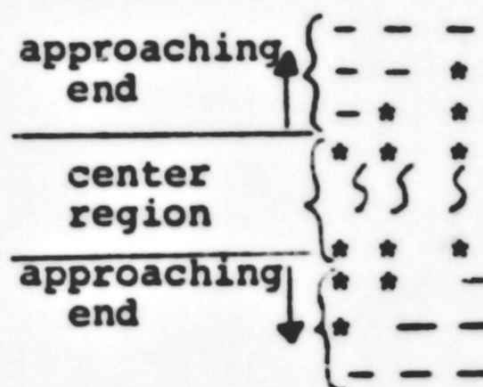
625 634 Title PDL-11 SYSTEM CHECKOUT AND CALIBRATION		Tech Tip Number PDL11-TT-1
Processor Applicability All 11s	Author Oscar E. Vega Rev 0 Approval Merle Wagner Date 6/8/76	Cross Reference

1102	012701	000002	SIX:	MOV #2,R1
1106	062701	000004	FOUR:	ADD #4,R1
1112	012700	000000	ZERO:	MOV #0,R0
1116	006301		SHIFT:	ASL R1
1120	005300			DEC R0
1122	100375			BPL SHIFT
1124	006201			ASR R1
1126	010137	167774		MOV R1,@#DROUT
1132	005001			CLR R1
1134	000721			BR START

Load appropriate AR11 addresses in locations 1004 and 1016
 " " DR11-K " " " 1130

For the 1st, 6th or 11th LOC box, location 1114 should contain 000000
 " " 2nd, 7th or 12th " " " " " 000003
 " " 3rd, 8th or 13th " " " " " 000006
 " " 4th, 9th or 14th " " " " " 000011
 " " 5th, 10th or 15th " " " " " 000014

Lamps operate as shown at right. Refer to the PDL-11 Installation Manual for adjustment details.



Title PDL-11 BASED DR11-K's					Tech Tip Number PDL11-TT-2	
All	Processor Applicability				Author Oscar E. Vega	Rev g
	118				Approval Merle Wagner	Date 6/8/76
Cross Reference						

It should be noted that whenever a DR11-K used in a PDL-11 system is ordered; be it for replacement or addition, it must be ordered at a BR 5 level, as it is normally shipped at a BR 4 level and PDL is looking for the DR11-K's to be at a BR 5 level.

Title PDL-11 WIRING LABELLING CLARIFICATION						Tech Tip Number PDL11-TT-3	
Processor Applicability All 11s				Author Oscar E. Vega		Rev 0	
				Approval Merle Wagner		Date 8/13/76	
Cross Reference							

There is a need to clarify some of the labelling of the wire connections in the PDL-11 Installation Manual EK-PDL11-IN-001. The H321 Cable Terminal Identification Tables 4-2, 4-3, and 4-4 sections labelled "To AR11 Connected H322 No. 1", found in pages 4-27, 4-28, and 4-29, are confusing in that the sections call for the red/white wire pairs to be connected to J9-3 "+5V" and J9-5 "GND"; when, in reality, the decal on J9-3 reads "Do not use" instead of "+5V", and on J9-5 it reads "HQ GND" instead of "GND".

It should be noted that, since all of the red/white wire pairs are connected to the same terminal screws (J9-3 & J9-5) and the hole in the terminal screw can only accommodate one wire, a conflict exists. The solution is to bundle together, either by twisting or preferably by soldering the red wires of the red/white wire pairs and then to feed a single wire from the bundle to J9-3 "+5v" "Do not use"; the same should be done for the white wires, feeding the single wire from the bundle to J9-5 "GND" "HQ GND".

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Tech Tip Index

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PDM70-TT-1

	FIELD SERVICE TECHNICAL MANUAL				Option or Designator
	12 Bit ☒	16 Bit ☒	18 Bit ☒	36 Bit ☒	PDM-70 DISPLAY/PLOTTER

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Title Notes On PDM-70				Tech Tip Number PDM-70-TT-1	
All X	Processor Applicability			Author John P. Kwolek	Rev ϕ
				Approval Merle Wagner	Date 5/5/76
Cross Reference					

1. The PDM-70 has caused the field quite a few problems. Hopefully this Tech-Tip will clear up the problems.

- A. First of all, while running diagnostic MainDec-11-DZPMA-B-D, the Baud rate for both the DL11 and PDM-70 must be 2400 Baud or faster.
- B. Unlike the PDM-70-J, the diagnostic cannot use the PDM-70-JR to get inside the PDM-70 from the DL11. This means that unless a PDM-70-J or R module is available, MainDec-11-DZPMA-B-D will not run.
- C. The largest problem with setting up a PDM-70 is switch settings and jumpers. Unfortunately the maintenance manual jumps around in this regard. However most of the information can be found in Chapter 2, Table 2-4, Table 2-5 and specific information on the individual module will be found under the appropriate section of Chapter 2. Problems on the JR module may be traced to:

1. Using the old manual to set up clock times.

Table should be:

Position	Function
4	Select Clock 1
3	Select Clock 2
2	Select Clock 3
1	Select System Clock
5	Select Stop Bits

2. Your printset may not match the information in the active-passive table. If so, information in this table is correct and the printset is wrong.
3. Switch V8 is not mentioned, it is used for MR (Modem Ready) and should be off if not using a Modem.
4. W6 and W7 are not used and should be left out.
5. When a JR module is used in a box and has a module located in a slot directly above or below it, the blue edge connectors should be used, even if they are not wired up. This action will reduce the possibility of etches shorting out because of the piggy-back module.
- D. Excessive heat in the PDM-70 may cause errors. If this is determined, an extra boxer fan should be mounted on the exterior of the PDM-70 in such a way as to force in additional air. P/N 209403-00.
Printset numbers for the JR module are 5411530 for the main module and 5411004 for the buffer or "piggy-back" module.
- E. Unless there is a specific reason not to, the system clock should be set for 34.5K Baud. In all cases, system clock should be faster than fastest user clock.
- F. Although the manual talks about setting up the addresses in special order, the only addressing restriction is that no two modules have the same address. Therefore any interface module can be placed in any slot with spaces in between modules.

PAGE 1	PAGE REVISION A	PUBLICATION DATE JUNE 1977
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Title RUNNING PDM70 DIAGNOSTIC ON 11'S				Tech Tip Number PDM70-TT-2	
Author R. MULLIGAN		F.S. Office ROLLING MEADOWS		Date MAY 1977	Revision 0
Processor Applicability		Mgr./Sup. LEE HOLT		Date MAY 1977	Cross Reference
All	11'S	Approval: G. NEALAND <i>DRN</i>		Date MAY 1977	

THERE HAS BEEN SOME CONFUSION EXPERIENCED BY PERSONNEL ATTEMPTING TO RUN THE PDM70 DIAGNOSTIC DZPMA-B IN THE FIELD. TYPICALLY, WHEN RUNNING THE M7377 MODULE TEST, AN ERROR AT PC=12426 WOULD OCCUR, INDICATING A DATA ERROR. FURTHER INVESTIGATION WOULD SHOW THAT THE SOURCE MODULE WAS NOT RETURNING DATA WHICH DESTINATION MODULE HAD SENT TO IT. ALL THAT WAS RETURNED WAS ONE "EOT".

THE PROBLEM IS ONE OF DOCUMENTATION OF THE DIAGNOSTIC. THE INSTRUCTIONS FOR RUNNING THE M7377 TEST DO NOT MENTION THE NECESSITY FOR THE TRANSMITTER OUTPUT OF THE PDM70-JR TO BE JUMPERED TO THE RECEIVER INPUT ON THE SAME MODULE (M7377). PINS 2 & 3 MUST BE JUMPED TOGETHER ON THE MATE 'N' LOCK, AS MUST PINS 5 & 7. EITHER THE TRANSMITTER OR THE RECEIVER CURRENT LOOP MUST BE MADE ACTIVE BY A SWITCH CONFIGURATION AVAILABLE IN THE MANUAL OF THE PDM70. THE SWITCHES ARE ON THE M7377A MODULE. IF THE TRANSMITTER IS MADE ACTIVE, THEN THE RECEIVER MUST BE MADE PASSIVE OR VICE VERSA. W5 ON THE M7377 MUST BE REMOVED IN ORDER TO PERMIT "EOT" TO BE TRANSMITTED TO THE RECEIVER FIFO FROM THE TRANSMITTER FIFO, ENABLING THE RECEIVER TO DETERMINE THAT IT HAS DATA TO SEND BACK TO THE PROCESSOR.

IF NO TERMINATING CHARACTER, SUCH AS "EOT" IS IN THE RECEIVER FIFO, THE FIFO IS CONSIDERED EMPTY AND IT SENDS ONLY AN "EOT" BACK TO THE PROCESSOR. SIMILARLY, IF THE TRANSMITTER OUTPUT IS NOT JUMPERED TO THE RECEIVER INPUT, THE RECEIVER FIFO REMAINS EMPTY AND GIVES THE SAME EFFECT.

NOTE

FIFO = first in/first out